Event

MPTS AJET
ON 4201 – ON 4301
T-45

Mission

OPERATIONAL NAVIGATION
1.2 HOURS/X

ORM

ON 4201 - 4301

- **OPERATIONAL REQUIREMENTS / LIMITATIONS**
  - **CREW REST/ CREW DAY / WORK WEEK**
  - **WARM-UP ELIGIBILITY**
  - **PREVIOUS FLIGHT COMPLETE?**
  - **IP CURRENCY**
  - **READ AND INITIAL**

- **HUMAN FACTORS**
  - **LIFE STRESSORS / EXTERNAL FACTORS/ PERSONAL PROBLEMS**
  - **MEDICAL STATUS**
    - **CREW DAY**
    - **CREW REST**
    - **NOURISHMENT**
    - **HYDRATION**

- **HAZARDS AND CONTROLS**
  - **ROUTINE**
  - **WEATHER**
    - **CURRENT OBSERVATIONS AND FORECASTS**
    - **CROSSWINDS**
    - **FUEL CONSIDERATIONS**

ORM

ON 4201 - 4301

- **ROAD RECCE HIGH RISK AREAS/MANEUVERS**
  - **NOT ADHERING TO ALTITUDE CONTRACTS**
  - **BASH**
  - **MID-AIR POTENTIAL WITH INTERLOPER**
  - **A/C OVERSTRESS**

TTO

ON 4201 - 4301

- **WHO WILL CALL A TTO?**

- **WHAT SITUATIONS WILL THE TTO BE CALLED?**
  - **SAFETY**
  - **CONFUSION**
  - **MISUNDERSTANDING**

- **IP RESPONSIBILITIES**
  - **RECOGNIZE THE NEED FOR A TTO**
  - **EXPLANATION / INSTRUCTION AS NECESSARY**
  - **DOCUMENTATION ON ATF**

- **WHEN AND HOW WILL TRAINING RESUME?**

SSR/DISCUSS ITEMS

ON 4201 - 4301

- **SPECIAL SYLLABUS REQUIRMENTS:**
  - **ON 4201: IP DEMO SECTION TGT ATTACK**

- **PREREQUISITES:**
  - **ON 4105, TAC4401, STK4104**

- **DISCUSS ITEMS:**

ON 4201

- **NATOPS/SOP/EP QOD**
- **LOW ALTITUDE HAZARDS**
- **LOW ALTITUDE EMERGENCIES**
- **LOW ALTIDTUDE SECTION MANEUVERING**
- **LOW ALT SECTION DECONFLICTION**
- **LOW ALTITUDE FLIGHT SAFETY**
- **NORDO PROCEDURES**
- **DISPLAY MANAGEMENT**

DISCUSS ITEMS CONT'D

ON 4201 - 4301

- **DISCUSS ITEMS:**

ON 4202

- NATOPS/SOP/EP QOD
- SLOW SPEED AND LOW ALT ROLL-INS
- 2-PLANE ARMED RECCE
- ATTACKS ON APPROVED TGTS OF OPPORTUNITY (TOO) WITH SIMULATED ORDNANCE
- TGT AREA DECONFLICTION

ON 4203

- NATOPS/SOP/EP QOD
- VISUAL RECONAISSANCE
- LOOKOUT DOCTRINE
- RESPONSE TO BANDIT

DISCUSS ITEMS CONT'D

ON 4201 - 4301

- **DISCUSS ITEMS:**

  ON 4301
  - **NATOPS/SOP/EP QOD**
  - **LOOK-OUT DOCTRINE**
  - **RESPONSE TO BANDIT**

SYLLABUS NOTES

ON 4201 - 4301

A. THESE EVENTS WILL BE FLOWN FROM THE FRONT COCKPIT.

B. BRIEF 2+00 PRIOR TO TAKEOFF FOR ON 4201.

C. JACKET REVIEW PRIOR TO CHECK FLIGHTS.

ADMIN

ON 4201 - 4301

- **LAUNCH**
  - **WEATHER / NOTAMS / TFR / BASH**
  - **LINE-UP**
    - Callsign, aircrew, side #’s, A/A TCN, IFF
  - **OP AREA / ROUTE**
    - Clearance, Range times, Restrictions, Controlling Agency
  - **FUEL**
    - Joker/Bingo
  - **COMM PLAN**
    - Presets / Frequencies
  - **WYPT PLAN**
    - SEQ, B/E, DMPI’S or TGT

ADMIN

ON 4201 - 4301

- **PREFLIGHT** (SMS, RKT / CCIP / TGT HGT)
- **START / MARSHALL / TAXI**
- **TAKEOFF**
  - Type, Speed, NWLO, Distance, Abort
- **DEPARTURE**
  - Rendezvous, Speed, Formation Enroute / RTB
- ***EXECUTE MISSION***
- **RETURN TO FORCE**
  - Rendezvous, Alt, BD Checks, Recovery
- **SPECIAL PROCEDURES**
  - Per Brief

MULTI-PLANE ONAV A/G TRAINING RULES

ON 4201 - 4301

- **GENERAL**
  - All aircrew are qualified and current
  - Designated Area / Route
  - WX MINS: 8000/5 (Attacks), 5000/5 (No Attacks)
  - Operational RADALT, HUD, and GPS are required for the flight
- **ALTITUDES**
  - TAC LEAD: <=3000’ MSL, TAC WING: >= 4000’ MSL,
  - All aircraft are responsible for collision avoidance.
- **ORDNANCE CONSIDERATIONS**
  - Per Brief
- **TERMINATION OF A/G MANEUVERING**
  - Any Tactical Abort Criteria is met
    - Roll-in without A/G selected
    - Anyone transmits “Abort” (When anyone calls “Abort/pull-up/KIO” all maneuvering aircraft shall establish a positive rate 17 unit climb to the briefed recovery altitude)
    - Dive Angle: <15° to >25° for TAC LEAD, >30° for TAC WING
    - Any doubt concerning SOF or safety of release.
    - Weather minimums are not met.
    - Any TR violation
    - Any dangerous situation develops
    - Overstress (6.6 / 5.1)
    - Bingo Fuel is reached
  - **KIO: “Knock it Off”**
    - <u>Procedures</u>: 17 unit pull to briefed recovery altitude and egress heading into DCS.
    - Any aircraft goes NORDO.
    - Any aircrew loses Situational Awareness.
    - Any Emergency
    - Any unsafe condition occurs.
    - Following a KIO, Low Alt Training will not resume without concurrence of all participating aircrew.

TAC ADMIN

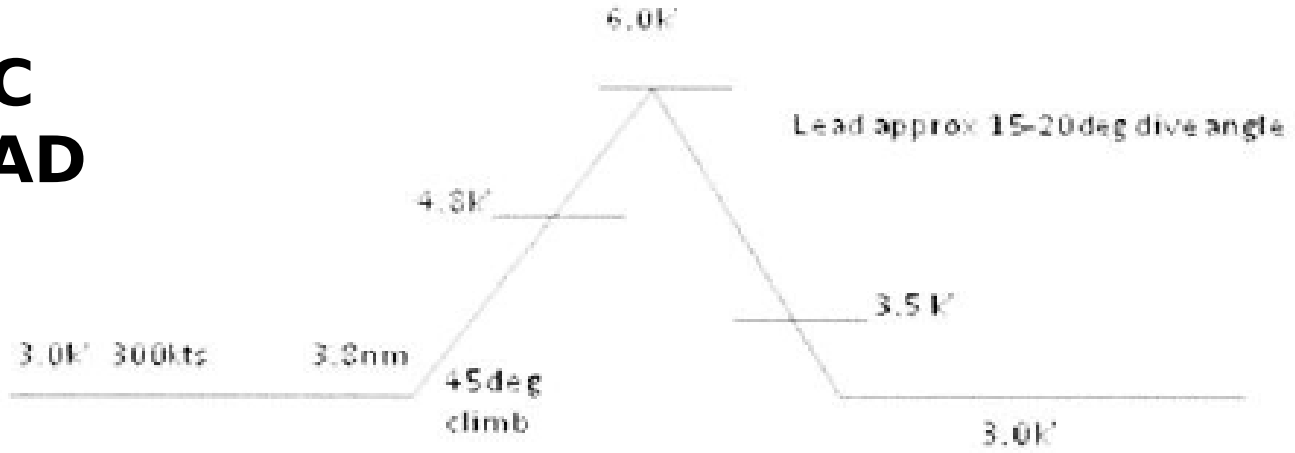
ON 4201 - 4301

- **ON DECK**
  - SMS, A/A TCN
  - CHECK-IN, Alpha Check
- **AIRBORNE**
  - GWARM: Assess on first target attack.
  - FENCE-IN (Initiated by TAC LEAD)
    - Master Arm, SMS, A/A TCN, IFF, RADALT, Alibis
  - OPS CHECKS
    - Fuel / G's
  - KIO (Per TW-1 TACSOP and A/G TR)
  - FENCE-OUT (Initiated by TAC LEAD)
    - Comm, Procedures, Master Arm, NAV MM, Altimeter, BD Checks

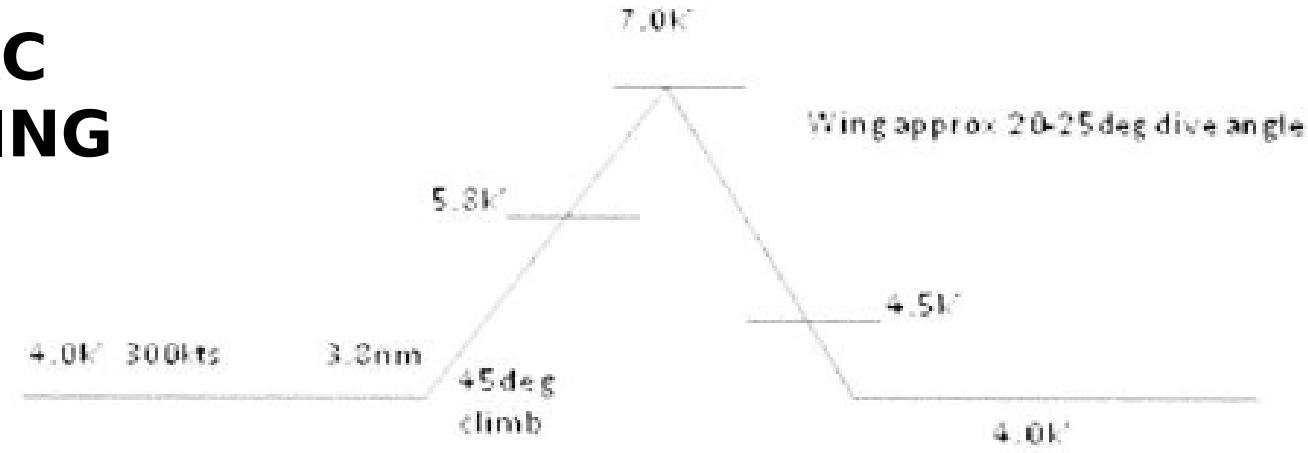
Z DIAGRAMS

ON 4201 - 4301

TAC LEAD



TAC WING



CONDUCT

ON 4201 - 4301

- **TIMS RESUME REVIEW**

- **PRACTICE:**
  - **CHECKLISTS/COMM/GROUND OPS**
  - **FLIGHT ADMIN**
  - **TACADMIN**
  - **FORMATION LEAD**
  - **FORMATION WING**
  - **ENROUTE NAVIGATION**
  - **ROUTE ENTRY**
  - **LOW-LEVEL NAVIGATION/PROCEDURES**
  - **TACTICAL LEAD**
  - **TACTICAL WING**
  - **SIGHT/LOOK-OUT DOCTRINE**
  - **TGT DESCRIPTION**
  - **STRIKE MANEUVERING**
  - **TACTICAL REJOIN**
  - **DECENT/FIELD ENTRY**
  - **FF ROLL-AND-GO**
  - **LANDING(S)**

BLOCK MIF

ON 4201 - 4301

CTS REF	MANEUVER	ON4105
1	General Knowledge/Procedures	4+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Airwork	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Communications	3+
7	Ground Operations	4+
8	Flight Admin	4+
10	Takeoff	4+
11	Departure	4+
12	Enroute Navigation	4+
40	Route Entry	4+
40	Dead Reckoning	3+
40	Low-Level Waypoint Navigation	4+
40	Altitude Control	4+
40	Time Control	4+
40	Course Control	4+
40	In-flight Computation	4+
40	Chart Interpretation	4+
40	Turns	4+
40	Ridge Crossing	3
40	Weather Response	3+
40	Route Abort/Exit	4+
49	Strike Maneuvering	1
2	Bingo	3+
13	Descent/Field Entry	4+
23	FF Roll-and-Go	4+
23	Landing(s)	4+

CONDUCT

ON 4201 - 4301

- **Route entry**
- **Press to Combat Spread**
- **Fence-In**
- **Responsibilities**
  - **TAC LEAD**
  - **TAC WING**
- **Section TGT Attacks** (DEMO / DO if req)
  - **ID TGT**
  - **Maneuver the Flight (Place TGT b/t Section)**
  - **Describe the TGT**
    - **Relation to Section, Distance in DME, Big-to-Small, N/E/S/W, Descriptive, Geo Ref**
    - **On my nose, L/R of my nose calls (TACWING, no delay)**
  - **Tally TGT**
  - **Egress**
  - **Q/A Geometry**
  - **POP (don’t be late)**
  - **SKIP IT! (if req)**

CONDUCT (cont)

ON 4201 - 4301

- **Section Pop Mechanics**
  - **TGT / HUD sight pic**
    - **Full POP: (7° for TAC LEAD / 9° for TAC WING) for Pull Down at 4.8K and 5.8K**
    - **Modified POP: 3k/4k (8° for TAC LEAD / 10° for TAC WING) or 2k/3k (5° TACLEAD) for Pull down at 3.8K and 4.8K**
    - **TAC LEAD (AUX):** *"C/S, popping on the L/R"*
    - **TAC WING (AUX):** *"C/S, popping on the L/R"*
  - **MRT, 17 units (nibble of buffet) level turn away from section to place TGT 45° off the nose.**
  - **Unloaded roll to wings level, 17 units (nibble of buffet) pull to 45° nose up on Waterline (a/s and alt boxes in HUD).**
  - **Little fwd Stick to maintain 45°**
  - **Scan TGT, Altitude**
  - **At respective Pull Down altitude, execute a 17 unit, 135° overbank/LV on TGT to place the TGT in the HUD FOV (Concentrate on pulling nose/VV/HUD to the TGT).**
    - **TAC LEAD (AUX):** *"C/S, In on the L/R"*
    - **TAC WING (AUX):** *"C/S, In on the L/R"*
      - *Ideally, TAC LEAD will call "In" prior to TAC WING. However, if TAC WING reaches his/her pull down alt, executes the roll-in with the nose coming through the horizon, TAC WING shall initiate the "In" call prior to TAC LEAD. TAC LEAD shall immediately execute his "In" procedures, regardless of altitude.*
  - **OA Dive Angle with VV just above the TGT, CCIP cross on TGT**

CONDUCT (cont)

ON 4201 - 4301

- **5 Scenarios at Roll-In, established in the dive (Reference MPONAV Stan Notes):**
  - **TAC WING is “Blind”**
    - TAC LEAD will call “Continue” and transmit his/her position. Both a/c will continue the attack and TAC LEAD will ensure deconfliction. If required, TAC LEAD will direct TAC WING to “Go High Cover”. The blind a/c will fly the profile and TAC LEAD will call TAC WING’s reversal if necessary and give position calls until a “Visual” is called.
  - **TAC LEAD is “Blind”**
    - TAC WING will call his/her position and both a/c will continue the attack while the TAC WING continues to give calls and deconflicts.
  - **Both TAC LEAD and TAC WING are “Blind”**
    - TAC LEAD continues the attack while TAC WING immediately transmits and goes High Cover without being directed. Lookout doctrine must continue as well over-the-ground geometry. When TAC LEAD calls “Off”, TAC WING knows to descend to 4000’ while continuing to gain a visual.
  - **Both are “Visual” and TAC WING is “No Joy” the TGT**
    - TAC WING immediately go High Cover and transmit while maintaining sight of TAC LEAD to get to the proper off tgt shackle point.
  - **TAC LEAD is “Blind” and TACWING is “Blind/No Joy”**
    - TAC LEAD continues to the tgt and TAC WING immediately goes High Cover and transmits. Both a/c will flow to egress hdg after TAC LEAD calls “Off”. A/C will

CONDUCT (cont)

ON 4201 - 4301

- **TGT Geometry**
  - **Ideally, all aircraft must evaluate the dive geometry / maintain visual**
  - **3.5k / 4.5k (500’ prior to level off), IDLE, PULL to recover above the horizon, TALK**
    - **TAC LEAD (AUX):** *“C/S, Off”*
    - **TAC WING (AUX):** *“C/S, Off”*
  - **Assess the geometry and shackle point (make the cross)**
- **Off TGT / Egress**
  - **Proper TAC FORM and mutual support to Egress hdg (look long for egress and 3/9 line)**
  - **TAC LEAD update hdg and/or redress the flight if distance/time allow**
    - **TAC LEAD (AUX):** *“Visual, Six Clear”*
    - **TAC WING (AUX):** *“Visual, Six Clear”*
- **Next TGT talk-on**
- **LEAD CHANGE**
  - **L.A.R.S**
    - **TAC LEAD (AUX):** *“You have the Lead on the L/R, I am climbing to 4,000, resetting my RADALT, strangling my squawk.”*
    - **TAC WING (AUX):** *“Roger, I have the Lead on the L/R, I am descending to 3,000, resetting my*

CONDUCT (cont)

ON 4201 - 4301

- **Common Mistakes:**
  - TAC LEAD not checking the flight to place the TGT b/t the section in an ample amount of time to attack.
  - TAC WING not calling “On my nose” or “L/R of my nose”.
  - Late TGT acquisition by TAC LEAD, resulting in LATE POP and improper dive angles.
  - Early Pop Attacks, resulting in shallow dive angles and shallow tgt aspect.
  - Improper comm, mixing of callsigns during the “Popping” and “In”.
  - Improper Pop mechanics: i.e. lazy pulls, climbing/descending vice level pulls, 45deg sight pic for tgt, not pulling to 45deg nose up and scan of TGT, Wingman, Alt.
  - Improper “In” mechanics: i.e. pulling through 17 units, not pulling VV/HUD to TGT, trying to look at Wingman in pull to TGT, late pull down.
  - All aircraft not assessing nose position and altitude with trend established, resulting in late recognition and abort mechanics.
  - In High Cover, TAC WING maintaining too much altitude, thus loosing sight/mutual support.
  - Late recognition/initiation to go High Cover or TAC LEAD directing High Cover.
  - Late recognition of sucked or acute position of wingman in dive and on the “Off”, resulting in poor off tgt shackle geometry.
  - Delay or improper comm while trying to gain visual of wingman.
  - Improper “Off” mech, dependent on established trend and egress flow
  - Descending or climbing through alt blocks on the “Off”, and in the shackle turn over the TGT and to the Egress.
  - TAC LEAD not maintaining contract of 300kts/3k/Hdg.
  - Assertive, SA-building comm to direct wingman’s visual or direct aircraft for proper geometry off TGT.
  - Slow Scan for TGT, Wingman, Alt to Recover and off TGT flow/geometry.
  - NO ALT BUSTS!

Emergencies

ON 4201 - 4301

- **AIRCRAFT FALLOUT**
- **CLEAR ENGINE PROCEDURE**
- **ABORTED TAKEOFF**
- **RWY DEP / LOSS OF DIRECTIONAL CONTROL**
- **SYSTEM FAILURES/ EPs / CRM**
- **BIRD STRIKE/ MIDAIR**
- **RADIO/ ICS FAILURE**
- **LOSS OF NAVAIDS / LOST PLANE**
- **INADVERTENT IMC / LOST SIGHT / LCLS**
- **DISORIENTATION / VERTIGO**
- **HYPOXIA**
- **EJECTION (HIGH / LOW / GROUND)**
- **SAR / ON SCENE COMMANDER**
- **DIVERT(S) / BINGO FUEL TO DIVERT**

STANDARD DEBRIEFING FORMAT

ON 4201 - 4301

- THE FLIGHT LEAD OR PILOT-IN-COMMAND IS RESPONSIBLE FOR ENSURING ALL FLIGHT OR CREWMEMBERS ARE THOUROUGHLY DEBRIEFED ON THE CONDUCT OF THE MISSION UTILIZING THE "S-P-B-E-MS-LL" FORMAT OUTLINED BELOW.

I. SAFETY
II. PLANNING
III. BRIEF
IV. EXECUTION
V. MISSION SUCCESS
VI. LESSONS LEARNED